

### Estimating Utah's Black Bear Population

One of the lingering questions in managing bear populations is: How many bears are there? In the past state wildlife managers have been unable to answer this question with any level of precision, because bears do not lend themselves to be counted. Beginning in 2003 the Division began a testing a technique to estimate bear populations within a 100 square mile area (10 miles x 10 miles) on the southwest end of the Uinta Mountains neat Kamas using mark-recapture techniques based on extracting DNA from hair. The information that can be collected using this technique includes:

1. Population density estimates
2. Species indentification
3. Identification of individual animals
4. Gender
5. Kinship
6. Genetic diversity within the population
7. Bear movements within the study area
8. Survival rates of bears with the study area

Based on the results of preliminary study the Division has established a second study site on the Boulder Mountain and intends to establish 3 additional sites (5 total) across the state.

## BLACK BEAR DNA-HAIR COLLECTION RESULTS - KAMAS

Year	2004	2005	2006	2007	2008
Hair Samples Collected	180	144	135	120	139
Number DNA Samples Extracted	143 (79%)	90 (63%)	91 (67%)	91 (67%)	
Sample Assigned to Individuals	43(30%)	47 (52%)	42 (46%)	71 (78%)	
Number Individuals	15	18	15	19	
Population Estimate (95% CI)	13-21	16-26	14-20	17-27	
Survival Rate (95% CI)		0.65	0.65	0.65	
New Bears Recorded					
Gender* (New Captures)					
Male	4	5	5	5	
Female	7	5	1	2	
TOTAL	11	10	6	7	

\*As determined by DNA analysis.